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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,059	03/15/2001	Markus Probst	ZIP 2216	7274

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EXAMINER
LUU, THANH X

ART UNIT	PAPER NUMBER
2878	

DATE MAILED: 07/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/811,059	PROBST, MARKUS	
	Examiner	Art Unit	
	Thanh X Luu	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *27-56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *27-56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 March 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

This Office Action is in response to amendments and remarks filed November 13, 2002. Claims 27-56 are currently pending.

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "6" in Figure 1; and "12" in Figure 2. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 54 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The language of claim 54 is redundant as it simply restates the last limitations of claim 42.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 44-49 and 51-54 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 45, Applicant has failed to describe an embodiment in which the deflection element deflects radiation to the receiving element and also has an entry surface that receives radiation from the radiation source perpendicularly. As understood, the deflection element (9; see Figures) that deflects radiation to the receiving element receives radiation from the target location and not the radiation source. Further, it appears that the entry surface of the deflection element (9) is actually a radiation exit surface.

Regarding claim 46, Applicant has also failed to describe an embodiment in which the deflection element deflects radiation to the receiving element and reflects radiation from the radiation source in the interior of the deflection element.

Regarding claim 47, Applicant has also failed to describe an embodiment in which the deflection element deflects radiation to the receiving element, which has a curved entry surface and receives radiation from the radiation source.

Regarding claim 51, Applicant has failed to describe an embodiment in which the deflection element deflects radiation to the receiving element from the target location

and having a curved surface through which radiation passes from the emitting device to the target location. As understood, the deflection element has an exit surface and flat surface in which the radiation passes from the target location towards the receiving device.

Claims 44, 49 and 52-54 suffer from similar problems.

For examination purpose and as understood, Examiner believes that Applicant intended for claims 45-49 and 51-54 to mirror claims 30-34 and 36-39, but it appears that Applicant inadvertently forgot to change the language of claims 45-49 and 51-54 appropriately to adapt language of the claims to an alternative embodiment with the receiving device.

In response, Applicant should cite specific sections of the application that sufficiently supports the above embodiments; otherwise, Examiner reminds Applicant that no new matter may be added.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> **A person shall be entitled to a patent unless –**
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 27, 28, 30, 31, 33, 35, 37-39, 41-43, 45, 46, 48, 50, 52-54 and 56, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Teder (U.S. Patent 5,661,303).

Regarding claims 27, 28, 35, 37-39, 41-43, 50, 52-54 and 56 Teder discloses (see Figure 3) an apparatus, comprising: an emitting device (56) for emitting radiation, a receiving device (58) for receiving radiation, a first window portion (a portion of 18 or 36) between the emitting device and a target location (at reflection point of 62), whereby radiation emitted from the emitting device passes towards the target location along a first path, a second window portion (another portion of 18 or 36) substantially coplanar with the first window portion and positioned so that radiation leaving the target location along a second path, which is at an angle of about 90 degrees to the first path, passes through the second window portion towards the receiving device, and wherein the emitting device comprises a radiation source (56) and a deflection element (38) positioned to receive radiation from the radiation source and to deflect such radiation towards the first window portion. Teder also discloses (see Figure 3) in the alternative, wherein the receiving device comprises a radiation detector (58) and an optical deflection element (40) positioned to receive radiation that passes from the target location along the second path and passes through the second window portion and to deflect such radiation towards the radiation detector. Teder further discloses (see Figure 3) the deflection element (38 or 40) comprises a reflecting prism. In addition, Teder discloses (see Figure 3) radiation emitted passes to the first window portion along a third path and passes along the first path and radiation that leaves the target location along the second path passes from the second window portion to the receiving device along a fourth path and the paths are substantially coplanar (in the plane of the paper).

Teder also discloses (see Figure 3) the deflection element (38 or 40) is in direct contact or integrally connected together with the first or second window portion (in 36).

Regarding claims 30, 31, 33, 45, 46, 48, Teder discloses (see Figure 3) an alternate deflection element (64 or 66) that has a radiation entry or exit surface (68 or 78) for receiving radiation from the radiation source (56), and the radiation passes perpendicularly through the radiation entry or exit surface. Teder also discloses (see Figure 3) the deflection element (64 or 66) has a deflection element (70 or 76) that is disposed such that radiation is reflected or totally reflected in the interior of the deflection element.

8. Claims 27, 39, 40, 42, 54 and 55, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Zanardelli (U.S. Patent 4,652,745).

Regarding claims 27, 39, 40, 42, 54 and 55, Zanardelli discloses (see Figure 1) an apparatus, comprising: an emitting device (21) for emitting radiation, a receiving device (11) for receiving radiation, a first window portion (a portion of 4) between the emitting device and a target location (at surface of 4), whereby radiation emitted from the emitting device passes towards the target location along a first path, a second window portion (another portion of 4) substantially coplanar with the first window portion and positioned so that radiation leaving the target location along a second path, which is at an angle of about 90 degrees to the first path, passes through the second window portion towards the receiving device, and wherein the emitting device comprises a radiation source (21) and a deflection element (at 3) positioned to receive radiation from the radiation source and to deflect such radiation towards the first window portion.

Zanardelli also discloses (see Figure 1) in the alternative, wherein the receiving device comprises a radiation detector (11) and an optical deflection element (at 12) positioned to receive radiation that passes from the target location along the second path and passes through the second window portion and to deflect such radiation towards the radiation detector. Zanardelli also discloses (see Figure 2) the target location and the deflection elements are disposed in a common plane (diagonal plane) and the radiation source and radiation detector are not in the common plane.

9. Claims 27, 30, 32, 34, 35, 42, 45, 47, 49 and 50, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Wiegleb et al. (U.S. Patent 5,391,891).

Regarding claims 27, 30, 32, 34, 35, 42, 45, 47, 49 and 50, Wiegleb et al. disclose (see Figure 1) an apparatus, comprising: an emitting device (1) for emitting radiation, a receiving device (2) for receiving radiation, a first window portion (a portion of 3) between the emitting device and a target location (at reflection points in S), whereby radiation emitted from the emitting device passes towards the target location along a first path, a second window portion (another portion of 3) substantially coplanar with the first window portion and positioned so that radiation leaving the target location along a second path, which is at an angle of about 90 degrees to the first path, passes through the second window portion towards the receiving device, and wherein the emitting device comprises a radiation source (1) and a deflection element (3b") positioned to receive radiation from the radiation source and to deflect such radiation towards the first window portion. Wiegleb et al. also disclose (see Figure 1) in the alternative, wherein the receiving device comprises a radiation detector (2) and an

optical deflection element (3b') positioned to receive radiation that passes from the target location along the second path and passes through the second window portion and to deflect such radiation towards the radiation detector. Wiegleb et al. further disclose (see Figure 1) the deflection element has a radiation entry or exit surface and the radiation passes perpendicularly through the entry or exit surface. Wiegleb et al. also disclose (see Figure 1) the entry or exit surface is curved or spherically curved and the radiation propagates along the optical axis.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 29 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teder in view of Bendicks (U.S. Patent 5,278,425).

Regarding claims 29 and 44, Teder discloses the claimed invention as set forth above, including a deflecting prism (38, 40). Teder does not specifically disclose the prism having a nonplanar aspherical surface. Bendicks teaches (see Figure 1 and column 2, lines 56-61) using nonplanar aspherical entry surfaces in a similar device. Bendicks further recognizes that an aspherical shape improves collimation. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an entry surface with a nonplanar aspherical surface in the

apparatus of Teder in view of Bendicks to improve collimation and obtain improved detection.

Response to Arguments

12. Applicant's arguments with respect to claims 27-56 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta, can be reached on (703) 308-4852. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
June 25, 2003

Thanh X. Luu
Patent Examiner